

CLAIMS

What is claimed is:

1 1. A circuit arrangement comprising:
2 an electrical load;
3 a power supply circuit coupled to the electrical load;
4 a primary voltage regulator coupled to the electrical load and to the power supply
5 to provide a first amount of power, the primary voltage regulator having a feedback
6 circuit to detect power supplied to the electrical load and to control additional voltage
7 regulators;
8 a secondary voltage regulator coupled to the electrical load, to the power supply
9 circuit, and to the feedback circuit of the first voltage regulator, the secondary voltage
10 regulator to provide a second amount of power.

1 2. The circuit arrangement of claim 1, wherein the secondary voltage
2 regulator further comprises a second feedback circuit to control additional voltage
3 regulators.

1 3. The circuit arrangement of claim 2 further comprising a tertiary voltage
2 regulator coupled to the power supply, to the electrical load, and to the second feedback
3 circuit, the tertiary voltage regulator supplying a third amount of power.

1 4. The circuit arrangement of claim 1 further comprising a tertiary voltage
2 regulator coupled to the power supply, to the electrical load, and to the feedback circuit,
3 the tertiary voltage regulator supplying a third amount of power.

1 5. A computer system comprising:
2 a processor module having a processor and a primary voltage regulator coupled to
3 supply a first amount of power to the processor, the primary voltage regulator also having
4 a feedback circuit for detecting voltage supplied to the processor and for controlling
5 additional voltage regulators; and
6 a system board coupled to the processor module having a secondary voltage
7 regulator coupled to supply a second amount of power to the processor, the secondary
8 voltage regulator coupled to and controlled by the feedback circuit.

1 6. The computer system of claim 5 further comprising a signal
2 communicated from the secondary voltage regulator to the primary voltage regulator to
3 indicate when the secondary voltage regulator is supplying power to the processor.

1 7. The computer system of claim 5, further comprising a docking station
2 configured to receive a mobile computer, the docking station having a tertiary voltage
3 regulator coupled to supply the processor with a third amount of power when the docking
4 station has received the mobile computer, the tertiary voltage regulator coupled to and
5 controlled by the feedback circuit.

1 8. The computer system of claims 7, wherein the docking station further
2 comprises an active thermal dissipation device thermally coupled to the tertiary voltage
3 regulator.

1 9. The computer system of claim 8 further comprising a second signal from
2 the tertiary voltage regulator to the primary voltage regulator to indicate when the tertiary
3 voltage regulator is supplying power to the processor.

1 10. The computer system of claim 5, wherein the secondary voltage regulator
2 is enabled in a pulse with modulated manner by the feedback circuit.

1 11. A method for supplying power comprising:
2 supplying power via a first voltage regulator to an electrical load;
3 detecting whether a secondary voltage regulator is coupled to supply power to the
4 electrical load;
5 supplying power to the electrical load with the secondary voltage regulator, if
6 present and if necessary, the secondary voltage regulator controlled by a feedback circuit
7 ~~in the primary voltage regulator.~~

1 12. The method of claim 11, wherein the secondary voltage regulator is
2 enabled by the feedback circuit in a pulse width modulated manner.

1 13. The method of claim 11 further comprising:

2 detecting whether a tertiary voltage regulator is coupled to supply power to the
3 electrical load; and
4 supplying power to the electrical load with the tertiary voltage regulator, if
5 present and if necessary, the tertiary voltage regulator controlled by the feedback circuit.

1 14. The method of claim 13, wherein the tertiary voltage regulator is enabled
2 by the feedback circuit in a pulse width modulated manner.

1 *sub*
2 *a2* 15. An apparatus for supplying power comprising:
3 means for supplying power via a first voltage regulator to an electrical load;
4 means for detecting whether a secondary voltage regulator is coupled to supply
5 power to the electrical load;
6 means for supplying power to the electrical load with the secondary voltage
7 regulator, if present and if necessary, the secondary voltage regulator controlled by a
feedback circuit in the primary voltage regulator.

1 16. The apparatus of claim 15, wherein the secondary voltage regulator is
2 enabled by the feedback circuit in a pulse width modulated manner.

1 17. The apparatus of claim 15 further comprising:
2 means for detecting whether a tertiary voltage regulator is coupled to supply
3 power to the electrical load; and

4 means for supplying power to the processor with the tertiary voltage regulator, if
5 present and if necessary, the tertiary voltage regulator controlled by the feedback circuit.

1 18. The apparatus of claim 17, wherein the tertiary voltage regulator is
2 enabled by the feedback circuit in a pulse width modulated manner.

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